

RESPONSE

Claims 1-21 are presently pending, with claims 1, 10-15, 19 & 20 being amended to more clearly define the invention, as will be further explained in greater detail hereinbelow.

It should be noted that the specification was amended to incorporate certain features relating to the flow regulator. Since said features were already illustrated in the drawings as originally filed, it is contended no issue of new matter is presented by said amendment.

I.

35 U.S.C. 112, 1st PARAGRAPH REJECTION

Claims 1, 14, 15 & 20 are rejected under 35 U.S.C. 112, 1st paragraph as failing to comply with the written description requirement.

Applicant respectfully traverses this finding in part in contending that to meet the requirements of 35 U.S.C. §112, 1st paragraph, the proper standard for showing possession of the claimed invention is not whether the specification describes the relevance of the claimed invention, but whether the disclosure reasonably conveys to one of ordinary skill that the inventor had possession of the invention as now claimed. *Ralston Purina Co. v. Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985); *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). Moreover, the court in *Vas-Cath* held that possession of an invention may be shown by drawings. *Vas-Cath* at 1565.

In the instant application, Applicant vigorously contends that the description of the stop means 50 is supported by the disclosure. Particularly, in response to the Examiner's query concerning whether element 50 (i.e., the stop means 50) is fixed, Figs. 3 & 5 clearly illustrate that the stop means 50 is supported on the housing 11. Hence, the stop means 50 is fixed to the extent that it can be supported by

and can engage or otherwise abut an upper surface of the housing 11. One having ordinary skill in the art of sanitary valves would discern such a feature when viewing Figs. 3 & 5.

The examiner further poses a query as to whether "the regulator close[sic] the inlet completely?" One of ordinary skill in the art of sanitary valves would easily recognize that the regulator body of the present invention may be longitudinally displaced between points of: (1) opening the inlet completely, i.e., providing substantially no interference with the working fluid, and (2) completely shutting off fluid flow through the inlet. This is supported by Fig. 7, which shows a portion 13a of the inlet channel having a seat unto which the tip portion of the regulator body may engage.

Thirdly, examiner queries as to whether "45 still adjustable once the stop means rests on 43?" Element 45 is still adjustable to the extent it can move the regulator body in an upward direction relative to the inlet passage.

Fourthly, the specification has been amended at paragraph [0038] to more clearly define the manner in which the regulator body is displaced when done manually. Particularly, one of ordinary skill in the art would recognize that displacement of the regulator body is effectuated through the rotation of the adjustment nut 52 until such time that the stop means 51 contacts or otherwise abuts the housing 11. A second adjustment nut 46 is provided to move the regulator body upwardly relative to the inlet passage.

Lastly, to clear any confusion, any recitation concerning stop means 50 has been amended to recite a "washer 50."

Accordingly, Applicant respectfully request that the rejection be withdrawn in view of the foregoing arguments.

I.

35 U.S.C. 103 REJECTIONS

Claims 1-10 & 13-21 are rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,338,370 to Edwards in view of U.S. Patent No. 3,865,281 to Byrd et al. ("Byrd"). Claim 11 is rejected under 35 U.S.C. 103(a) as unpatentable over Edwards in view of Byrd and further in view of U.S. Patent No. 4,437,498 to Pankratz et al. ("Pankratz"). Claim 12 is rejected under 35 U.S.C. 103(a) as unpatentable over Edwards in view of Byrd and further in view of U.S. Patent No. 5,957,343 to Cavallaro.

Applicant would like to direct Examiner Khaira's attention to the *Interview Summary* dated August 11, 2005. The Interview Summary acknowledges a mutual agreement as to the novelty of the inventions, particularly, *inter alia*, the spatial position of the regulator in relation to the respective inlet and outlet passages. Particularly, Examiner Khaira and the attending primary examiner expressed that such features are not found in the prior art, namely Byrd, Edwards and the other cited references. However, the examiner merely glosses over this feature in combining Edwards and Byrd.

The foregoing rejection of claims 1-12 are rendered moot in view of the amendments to the claimed invention. Applicant respectfully contends that the claims as presently amended are patentably distinct over the cited references for at least the following reasons.

A. Metes and Bounds of the Claimed Invention

Claims 1-12 as presently amended are directed generally to a sanitary fill valve assembly including, *inter alia*:

"a regulator body extending for longitudinal movement substantially perpendicular relative to said product dispenser, said inlet passage and said outlet passage and across the entire flow area at said inlet passage" (Emphasis added)

and

“a...regulator body having a substantially tapered tip portion that combines with a corner sidewall portion of said inlet passage to create a flow passage through which the viscous flowable material flows into said annular chamber.” (Emphasis added)

Claim 13 as presently amended is directed generally to a sanitary fill valve assembly including,

inter alia:

“a product flow regulator...extending for longitudinal movement substantially perpendicular relative to said product dispenser, said inlet passage, said outlet passage and across the entire flow area at said inlet passage” (Emphasis added)

and

“an adjustably moveable product flow regulator...having stop means for limiting the movement of said product flow regulator” (Emphasis added)

Claim 14 as presently amended is directed generally to a sanitary fill valve assembly including,

inter alia:

“a product flow regulator having a regulator body...extending for longitudinal movement substantially perpendicular relative to said product dispenser, said inlet passage, said outlet passage and across the entire mouth at said inlet passage wherein a distal end portion of said regulator body combines with said inlet passage to form a flow channel at the mouth of said inlet passage through which the viscous flowable material flows into said annular chamber, the width of said flow channel being automatically adjustable to regulate the flow rate of the viscous flowable material before entry into the annular chamber.” (Emphasis added)

Claims 15-19 are directed generally to a sanitary fill valve assembly for accommodating viscous flowable materials having different physical properties, said sanitary fill valve including, *inter alia*:

“a product flow regulator in communication with said inlet passage and said chamber for adjustably regulating the rate of flow of the viscous flowable material into said chamber by reducing and/or increasing a flow area into said chamber, wherein said product flow regulator is positioned in said valve housing such that it reciprocates in directions substantially perpendicular to said product dispenser, said inlet passage and said outlet passage and across the entire flow area at said inlet passage.” (Emphasis added)

Claims 20 & 21 are directed generally to a process for hygienically filling a container with a viscous flowable material, including, *inter alia*, the step of:

"providing a flow regulator between said chamber and said inlet and substantially perpendicular in relation to said inlet and said outlet and across the entire flow area at said inlet."

B. Non-obvious Advantages of the Claimed Invention

Indeed, the claimed invention also efficiently dispenses and meters a predetermined amount of viscous flowable material by utilizing an adjustable flow regulator situated substantially perpendicular in relation to the inlet passage and the outlet passage. Such flow regulation permits the sanitary fill valve to accommodate variations in the physical properties of the viscous flowable material such as temperature, viscosity, density, pumping pressure, etc.

The feature concerning the formation of a flow channel created by the tapered tip portion of the regulator body and sidewall portion of the inlet channel is non-obviously advantageous in also minimizing turbulent flow into the chamber 12 to prevent undesirable splashing and gas bubble formation during a dispensing cycle. This is further advantageous in maintaining consistent flow rates, and thus, more rapid and precise dispensing of the liquid product.

C. No Prima Facie Case of Obviousness

Applicant respectfully contends that the Office Action lacks the necessary standards of obviousness for at least the following reasons.

1. Edwards and Byrd Lack a Product Flow Regulator

The claimed invention requires, *inter alia*, (i.) a product dispenser 20 for dispensing the viscous flowable material from the valve chamber; and (ii.) a product flow regulator 40.

Referring now to the Office Action, particularly the rejection of claims 1-10 & 13-21, the Examiner asserts that while Edwards discloses a sanitary fill valve assembly, it "does not discloses[sic] a product flow regulator for adjustably regulating the rate of flow of viscous flowable material into the chamber."

Thus, Byrd was combined with Edwards since it purportedly discloses:

"a product flow regulator (250, fig 11) for adjustably the rate of flow (by up/down movement) of the viscous flowable material into the chamber (228, fig 11)."

Moreover, the "product flow regulator (250, fig 11)" purportedly disclosed in Byrd is also characterized by the Examiner as:

"being disposed in a flow path (from inlet 218 to outlet 234) between inlet passage (218) and the chamber to at least one of reduce (upward movement) and increase (downward movement) the flow area at the flow path."

Byrd, however, lacks any such disclosure of a product flow regulator, or even one having the specific characteristics set forth in the rejected claims. The express teachings of Byrd clearly describe item 250 as "a land area" connectable to control valve spool 246 that reciprocates between valve chamber portions 222 and 226 to facilitate the dispensing of product from the valve chamber through nozzle 234 and into container 58. Col. 8, lines 47 et seq.; Col. 11, lines 4-8 and 26-33. In essence, Byrd discloses a product dispenser, for dispensing the product into a container.

Since both Edwards and Byrd merely disclose various product dispensers serving only to dispense the fluid into a container, the resultant combination would not render the claimed invention obvious to one of ordinary skill.

2. Lack of Motivation to Combine Edwards and Byrd

Even assuming, *arguendo*, that Byrd discloses a regulator, Edwards is devoid of any teaching which would motivate one of ordinary skill in the art to modify its fill valve assembly so as to incorporate a product flow regulator. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be some suggestion or motivation in the reference to do so." *In re Mills*, 916 F.2d 680, 682 16 USPQ2d 1430, 1432 (Fed. Cir. 1990); M.P.E.P. §2143.01 (2001). A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levingood*, 28 USPQ2d 1300 Bd. Pat. App. & Inter. 1993); M.P.E.P. §2143.01 (Sept. 2001).

Hence, the Examiner's mode of analysis of the claimed invention constitutes impermissible hindsight reconstruction. There is no explicit or implicit recognition by Byrd, Edwards or the prior art as a whole for the problems of adjusting the flow rate during a dispensing operation:

- (1) at a point between the inlet channel and dispensing chamber; and
- (2) in relation to physical characteristics of the viscous flowable material, particularly, density, pump pressure, viscosity, compressibility, etc.

The Examiner asserts that "it would have been obvious to have modified the dispenser of Edwards et al with the flow regulator of Byrd et al in order to control the flow rate of the fluid into the dispensing chamber as taught by Byrd." There is no such teaching in Byrd, and if so, Applicant respectfully requests the Examiner provide the specific teaching in the Byrd patent.

No recognition of the problem, i.e., undesirable splashing and gas bubble formation during a dispensing cycle, that confronted Applicant was provided in the prior art teachings, whether explicitly or

implicitly. Indeed, Applicant was confronted with the problem, and accordingly provided a solution to this problem, particularly by providing a product flow regulator positioned substantially perpendicularly to the product dispenser for limiting turbulent flow into the chamber by regulating fluid flow between the inlet channel and the chamber. The specific architecture of the flow regulator either increases or increases the flow area at the inlet passage to provide smooth flow into the chamber.

3. Resultant Combination of References Lack Spatial Positioning Between the Product Flow Regulator Relative to the Inlet/Outlet Passages

The claimed invention requires situating the flow regulator substantially perpendicular relative to the product dispenser, the inlet passage and the outlet passage and directly across the entire flow path at the inlet passage. This feature is particularly illustrated at least in Fig. 1 of Applicant's detailed drawings, whereby the regulator body 41 is disposed in the path of flow in the inlet channel 13 to positively adjust the flow rate of the liquid product L by reducing and/or increasing the flow area into the chamber 12 in relation to the varying physical characteristics (temperature, viscosity, density, pumping pressure, etc.) of the liquid product L. Particularly, the flow regulator body is adjacent the flow area, i.e., mouth of the inlet passage. Thus, longitudinal movement of the flow regulator body can result in a partial or complete opening or complete shut off of fluid flow through the inlet passage.

The Examiner improperly dismisses the claimed feature in asserting that "It would have been further obvious to position the regulator perpendicular to the inlet and outlet passages if desired by the manufacturer in order to dispense the product." May Applicant remind the Examiner that all the claimed features must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1974). Accordingly, Applicant respectfully request that the Examiner provide a specific teaching the art for a flow regulator positioned

Byrd discloses a valve spool 246 mounted for vertical sliding movement relative to inlet 216 and outlet 236, and a piston 230 for pumping a liquid product from the chamber. Specifically, the valve spool merely allows a certain amount of fluid to flow freely into cylinder 228. Col. 8, lines 58-65. The structural design of the Byrd device is such that valve spool 246 or piston 230 does not impede the flow path of the fluid product directly at the inlet 218. In particular, the land area 250 of valve spool 246 is not spatially positioned substantially perpendicular to the inlet and outlet passages as required by the claimed invention and cannot move completely across the flow path at the inlet. Particularly, as clearly shown in Figs. 11 & 12 of Byrd, the land area 250 is actually positioned downstream of inlet passage 218 which empties product into chamber portion 222. Moreover, the section of valve body 202 at the distal end of chamber portion 222 is equipped with a pair of shoulders which prevent land area 250 from moving into the direct flow path at the inlet passage.

Pankratz discloses a carton filling apparatus 22 that includes a vertical passage having an inlet at its upper end which communicates with storage tank 24 (Col. 3, lines 3-5), an outlet passage 28A/28B, a chamber 32, a "vertically oriented" valve member 64 for controlling liquid flow through the vertical passage (Col. 2, lines 66-66; Col. 3, lines 11-13), and a drive mean in the form of a pumping cylinder 34 for driving the chamber dispensing the liquid from chamber 32. Pankratz lacks the claimed spatial features of the claimed flow regulator since its valve member 64 is situated parallel to both the inlet and the outlet. In fact, the Pankratz device operates much like the Byrd device inasmuch as it utilized a vertically

4. Resultant Combination of References Lack a Flow Regulator Having Stop Means

In accordance with the claimed invention, the sanitary fill valve assembly requires a product flow regulator having a stop means for limiting the movement of said product flow regulator. This feature is

illustrated at least in Figs. 1-5 & 7, whereby stop means 51 is provided to limit the longitudinal displacement of the regulator body 41 towards the chamber 12. Such a feature is not taught, disclosed or suggested by the cited references.

5. The Physical Characteristics of the Product Flow Regulator

The cited combination of references also lack a flow regulator having a regulator body that combines with the inlet passage to form a flow channel through which the viscous flowable material flows into the annular chamber. This feature is illustrated in FIG. 4, which shows a tip portion 44 of the regulator body 41 combining with a corner sidewall portion of the inlet channel 13 to create a flow passage or channel through which the liquid product L flows into the valve chamber 12.

This feature is advantageous in minimizing turbulent flow into the chamber and preventing undesirable splashing and gas bubble formation during a dispensing operation. This is further advantageous in maintaining consistent flow rates of the liquid product, and thus, more rapid and precise dispensing of the liquid product.

None of the cited references teaches such a feature, and thus, the non-obvious advantages of the claimed invention cannot be achieved.

CONCLUSION

Accordingly, as it has been shown that the combined references cited by the Examiner lack any teaching, disclosure or suggestion for the aforementioned features of Applicant's claimed invention, it is respectfully requested that the rejection of the claims be withdrawn.

In view of the foregoing remarks, Applicant respectfully contends that the pending claims are in condition for allowance.

In the event that there are any questions relating to this Amendment or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that prosecution of the instant applicant may be expeditiously closed.

While no fees are believed to be necessary with respect to the filing of this response, the Commissioner is hereby authorized to charge any official fees or credit any fees or deficiencies with respect to the filing of this response or this application to Deposit Account No. 18-2361.

Respectfully submitted,

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